

THE BEE GENUS EMPHOR IN SOUTH AMERICA.

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Mr. J. Vachal (Rev. Ent. Caen., Vol. XXVIII, p. 23, 24) cites 3 species of *Emphor* from Argentina: 1, *E. fructifer* (Holmbg.); 2, *E. tricolor* (Friese), and 3, *E. bifax* Vach. The first is at the same time the type of the genus *Teleutemnesta* Holmbg., and the second was described as an *Ancyloscelis*. Vachal himself regards *Emphor* as a subgenus of *Ancyloscelis*; but this standpoint is not to be discussed here. Changing his term "subgenus" into "genus," the question is left open whether he was correct in synonymizing *Teleutemnesta* with *Emphor*, or not. As I had the occasion to see some specimens of a representative of this group in the collection of Mr. A. de Winkelried, Bertoni, I think it useful to give a detailed description of them as well as some remarks on the group as a whole. For, if Mr. Vachal's views are correct, the genus would have a singular distribution; a few species in Argentina and one in the Eastern United States. The specimens mentioned above came from Santa Fé, Argentina, and cannot be referred to any of the three species cited by Vachal. There is a description of *Ptilothrix tricolor* (Friese) given by Brèthes* (Anal. Mus. Buenos Aires, Vol. XX, pl. 10, p. 295), based apparently on the same insect as the Santa Fé bees, but, as it seems, not on that described by Friese as *Ancyloscelis tricolor*. There are too many differences between the description of the latter and the Santa Fé bees, so these are treated here as a new species: *Emphor opuntia*. Surely they are at least congeneric and with the same habits as *tricolor*. Mr. A. C. Jensen Haarup states that *tricolor* "is rarer than the preceding"—*Ancyloscelis nigerrima*—"and similarly a cactus-insect" (Flora og Fauna, 1908, p. 103). According to Mr. Joergensen who observed both *tricolor* and *nigerrima* at Mendoza, Argentina, they are one and the same species; the few red hairs on the segments of *tricolor* are soon lost or decoloured and thus the insect becomes *nigerrima*. There are no plastic differences between them (Zool. Jahrb., Vol. XXIX, 1912, Abt. f. Syst. p. 157).

Joergensen says that the bee provides its nest with a tube above the soil, a behaviour not observed of any other bee from Mendoza. Among the flowers visited he likewise cites an *Opuntia* (l. c.). The North American species, *E. bombiformis* (Cress.), on the contrary, was found on flowers of *Ipomoea* and *Hibiscus*, as far as I know.

The species described by E. L. Holmberg as *Teleutemnesta fructifera* is surely also congeneric, although there seem to exist slight differences in the venation of the wings. Holmberg says that the second cubital cell is smaller than the first or third, with the first recurrent nervure a trifle behind its middle. Vachal states that the second cubital cell is almost as large as the first or third, with the first recurrent nervure between its middle and apex, nearer to its middle, however. In *opuntia* the second cubital cell is scarcely half the length of the first and not more than $\frac{2}{3}$ of the third; the first recurrent nervure enters in the female almost in the middle of the cell, in the male between middle and apex. In *bombiformis* finally, the second cubital cell is described as about $\frac{2}{3}$ the length

*Brèthes considers *Emphor* and part of *Teleutemnesta* as synonyms of *Ptilothrix* Sm. (Bull. Soc. Ent. France, 1910, p. 212). They are certainly related but not identical if the figures given by E. Smith are correct.

of the first. In *opuntiae* the claws have a short median tooth in the female, a long one in the male, thus in the latter sex they appear almost cleft. In both sexes there are no pulvilli; of the other Argentine species no references are given in this respect.

Emphor opuntiae, n. sp.

Female.—Black, 13 mm. Head as broad as thorax. Face clothed with dirty white pubescence, that on vertex black. Clypeus nude, convex, its anterior margin slightly depressed, covered not very closely with rather large punctures; its hinder margins oblique and clothed with whitish pubescence. Mandibles with fine yellowish pile at base, reaching the eyes. Vertex quite closely punctured with rather small punctures. Antennæ short, black; scape minutely punctured.

Thorax covered with grayish hairs; a transverse line of fuscous hairs behind the anterior margin of the mesonotum, with short triangular projections backwards on the parapsidal region; another transverse band of fuscous hairs on the anterior margin of scutellum. Tubercles with fuscous hairs. Sternum and lower part of pleuræ densely covered with short black hairs. Mesonotum and scutellum with quite large punctures. Basal area of propodeum almost bare, covered with fine shallow punctures and with a slight median depression at base. Enclosure of basal area smooth and shining, the rest of propodeum densely punctured. Pleuræ equally covered with close punctures.

Abdomen.—First two dorsal segments covered with very short white hairs, becoming closer and longer at sides and on apical margins, forming fasciæ which become gradually broader towards the sides; that on second segment is white only in the middle, towards the sides it becomes more and more yellowish. The following two segments are clothed at base with short scattered black hairs. the marginal fasciæ are formed by longer and closer hairs, orange-yellow and broader at sides, paler and narrower in the middle. Fifth segment only at sides with orange-yellow hairs, those at base and on apical margin fuscous. Sixth segment entirely covered with fuscous hairs, except the naked pygidial plate; this opaque, tapering towards apex, longer than broad at base. All segments punctured; the punctures small and scattered at basal segments, become gradually closer and larger towards apex. Ventral segments 2-5 with fringes of long, orange-yellow hairs; the hairs on second segment scattered, on fifth very close. Punctures on ventral segments closer at apical margins than at base.

Wings.—Subhyaline, nervures dark brown, stigma same. First cubital cell longer than third; second pentagonal, narrowed above, scarcely half the surface of first and about $\frac{2}{3}$ of third, with the first recurrent nervure a little behind its middle. Origin of cubital nervure and of first recurrent nervure equally distant from base of wing. Tegulæ almost black, microscopically punctured.

Legs.—Clothed with long, fuscous hairs. Femora dark reddish brown. Tibiæ almost black; tarsi ferrugineous. Tibial spurs reddish brown, those on posterior pair hooked at apex. Claws slender with an acute median tooth. No pulvilli.

Male.—General appearance similar to female, but larger (14 mm.), on abdomen and legs less densely haired.

Head.—Clothed with long grayish white pubescence; no dark hairs on vertex. Punctures on clypeus much closer than in female. Labrum very large, closely punctured, its apical margin incrassate, smooth and shining, clothed with a few yellowish hairs. Antennæ short; second joint of flagellum longer than third and fourth united; last joint a little compressed.

Thorax.—Entirely covered with dirty white pubescence, even the sternum, only on scutellum the hairs are brownish. Propodeum with longer and denser hairs as in female, the basal area concealed under the long pubescence.

Abdomen.—As in female, but the hairs on sides and apical margins much shorter, hence the fasciæ narrower and weaker, especially when seen from behind; fifth and sixth segments with orange-yellow fasciæ, and undefined patches at sides basally formed by fuscous hairs; seventh segment with dense fuscous hairs.

Wings.—The origin of the cubital nervure a trifle nearer to base of wing than that of first recurrent nervure; this entering second cubital cell between middle and apex, closer to its middle.

Legs.—Stouter than in female, less hairy, the hairs pale. Hind coxæ very thick, almost without punctures, but clothed with fine, long, yellowish hairs. Claws with the median tooth longer than in female, almost reaching tip of claws.

Argentina; Santa Fé.

Female.—(Type) Dec. 30, 1910, on *Opuntia monacantha* Haw.

Male.—(Genotype). Same locality, without other date.

From *Teleutemnesta* s. *Emphor fructifer* (only the female is described by Holmberg) it differs by the mandibles not spotted with yellow; by the pubescence of thorax which is gray mixed with a few fuscous hairs in *fructifer*. The punctures on thorax of *opuntia* are neither very fine nor very close as in Holmberg's species. The scopa is fuscous in *opuntia*, fulvous in *fructifer*; the latter has the four basal segments of abdomen fringed with orange-yellow fasciæ.

The males described by Vachal as *fructifer* are perhaps another species as they are unusually small (10–11 mm.), while in the other known species the male is equal in size to female or even larger. From these so-called *fructifer* the new species differs by the tubercles being clothed with pale hairs as well as the anterior pair of legs and the femora of the remaining. All these are clothed with black hairs in Vachal's specimens.

E. tricolor (Friese) female has no transverse fasciæ of dark hairs on mesonotum and scutellum, but many gray hairs which replace sometimes all the black pubescence; the abdominal segments 2 and 3 have whitish fasciæ, and only the sides of third and fourth segments have yellowish fasciæ. Moreover, it is smaller (12 mm. long, 4 mm. late), against 13 and 4.5 mm. in *opuntia*.

The male of *E. tricolor* is smaller and has yellowish hairs only at sides of abdominal segments 3 and 4. The description given by Friese is very incomplete and not fit for comparison.

E. bifax Vach., judging from the very short description, is quite another insect.

Ptilothrix megasoma Brêthes seems to belong to *Emphor* too; it is a large bee (15 mm.) from Mendoza, and differs considerably from *opuntia*.